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Job No.: CTCE/BBMP/W.No.09/BBU/WMM/Gradation/2015-16 29.04.2015

GRADATION FOR WMM
MORTH TABLE-400-11

Customer : **Asst. Executive Engineer,** Vidyaranyapura Sub Division, BBMP, Bangalore.

Agency : **Mr. B.B. Umesh,**
#385, Bettaulsur (P), Bangalore North Taluk.

Name of Work : Improvements & Asphalting to Dhanalakshmi Layout balance road in Ward No.09, Vidyaranyapura Sub Division, BBMP, Bangalore.

Reference : EE/BTP/BBMP/E-PMT/10(16710)WO/34/2015-16 Dated: 22.04.2015

Date of Testing : 29.04.2015

Material : WMM

Sample Location : WMM Mix Plant Oven Dry Wt (gm): **5000**

Is Sieve Size in mm	Weight Retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Spec.Limits
53	0	0	0	100	100
45	105	105	2.1	97.9	95-100
22.4	1590	1695	33.9	66.1	60-80
11.2	1050	2745	54.9	45.1	40-60
4.75	620	3365	67.3	32.7	25-40
2.36	460	3825	76.5	23.5	15-30
0.600	410	4235	84.7	15.3	8-22
0.075	450	4685	93.7	6.3	0-8

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Note:

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Job No.: CTCE/BBMP/W.No.09/BBU/WMM/Gradation/2015-16

29.04.2015

GRADATION FOR WMM
MORTH TABLE-400-11

Customer : **Asst. Executive Engineer,** Vidyaranyapura Sub Division, BBMP, Bangalore.

Agency : **Mr. B.B. Umesh,**
#385, Bettaulsur (P), Bangalore North Taluk.

Name of Work : Improvements & Asphalting to Dhanalakshmi Layout balance road in Ward No.09, Vidyaranyapura Sub Division, BBMP, Bangalore.

Reference : EE/BTP/BBMP/E-PMT/10(16710)WO/34/2015-16 Dated: 22.04.2015

Date of Testing : 29.04.2015

Material : WMM

Sample Location : WMM Mix Plant

Oven Dry Wt (gm): **5000**

Is Sieve Size in mm	Weight Retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Spec.Limits
53	0	0	0	100	100
45	135	135	2.7	97.3	95-100
22.4	1650	1785	35.7	64.3	60-80
11.2	1090	2875	57.5	42.5	40-60
4.75	750	3625	72.5	27.5	25-40
2.36	500	4125	82.5	17.5	15-30
0.600	325	4450	89.0	11.0	8-22
0.075	350	4800	96.0	4.0	0-8

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29.04.2015

GRADATION FOR WMM
MORTH TABLE-400-11

Customer : **Asst. Executive Engineer,** Vidyaranyapura Sub Division, BBMP, Bangalore.

Agency : **Mr. B.B. Umesh,**
#385, Bettaulsur (P), Bangalore North Taluk.

Name of Work : Improvements & Asphalting to Dhanalakshmi Layout balance road in Ward No.09, Vidyaranyapura Sub Division, BBMP, Bangalore.

Reference : EE/BTP/BBMP/E-PMT/10(16710)WO/34/2015-16 Dated: 22.04.2015

Date of Testing : 29.04.2015

Material : WMM

Sample Location : WMM Mix Plant

Oven Dry Wt (gm): **5000**

Is Sieve Size in mm	Weight Retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Spec.Limits
53	0	0	0	100	100
45	125	125	2.5	97.5	95-100
22.4	1560	1685	33.7	66.3	60-80
11.2	1060	2745	54.9	45.1	40-60
4.75	625	3370	67.4	32.6	25-40
2.36	595	3965	79.3	20.7	15-30
0.600	435	4400	88.0	12.0	8-22
0.075	350	4750	95.0	5.0	0-8

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Job No.: CTCE/BBMP/W.No.09/BBU/WMM/AIV/2015-16 29.04.2015

Aggregate Impact Value

IS: 2386 Part IV

Customer	**Asst. Executive Engineer,** Vidyaranyapura Sub Division, BBMP, Bangalore.
Agency	**Mr. B.B. Umesh,** #385, Bettaulsur (P), Bangalore North Taluk.
Name of the Work	Improvements & Asphalting to dhanalakshmi Layout balance road in Ward No.09, Vidyaranyapura Sub Division, BBMP, Bangalore.
Reference	EE/BTP/BBMP/E-PMT/10(16710)WO/34/2015-16 Dated: 22.04.2015
Source / Location	WMM Plant
Type of Mix	Wet Mix macadam
Date of Testing	29.04.2015

Sl No.	Details	Trial No. 1	Trial No. 2	Average
1	Total weight of aggregate sample filling the cylindrical measure = W_1 g	380	381	
2	Weight of agregate passing 2.36 mm sieve after the test = W_2 g	78	79	
3	Weight of aggregate retained 2.36 mm sieve after the test = W_3 g	302	302	
4	Aggregate Impact value = percent fines	20.53	20.73	
	100* (W_2/W_1)%			**20.63**

Comments:

→ Maximum allowable Aggregate Impact value for Wet mix Macadam is 30%

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Job No.: CTCE/BBMP/W.No.09/BBU/WMM/AIV/2015-16 29.04.2015

Aggregate Impact Value

IS: 2386 Part IV

Customer	**Asst. Executive Engineer,** Vidyaranyapura Sub Division, BBMP, Bangalore.
Agency	**Mr. B.B. Umesh,** #385, Bettaulsur (P), Bangalore North Taluk.
Name of the Work	Improvements & Asphalting to dhanalakshmi Layout balance road in Ward No.09, Vidyaranyapura Sub Division, BBMP, Bangalore.
Reference	EE/BTP/BBMP/E-PMT/10(16710)WO/34/2015-16 Dated: 22.04.2015
Source / Location	WMM Plant
Type of Mix	Wet Mix macadam
Date of Testing	29.04.2015

Sl No.	Details	Trial No. 1	Trial No. 2	Average
1	Total weight of aggregate sample filling the cylindrical measure = W_1 g	388	389	
2	Weight of agregate passing 2.36 mm sieve after the test = W_2 g	88	89	
3	Weight of aggregate retained 2.36 mm sieve after the test = W_3 g	300	300	
4	Aggregate Impact value = percent fines	22.68	22.88	
	100* (W_2/W_1)%			22.78

Comments:

→ Maximum allowable Aggregate Impact value for Wet mix Macadam is 30%

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Job No.: CTCE/BBMP/W.No.09/BBU/WMM/S-T/2015-16 29.04.2015

DETERMINATION OF FLAKINESS INDEX & ELONGATION INDEX OF COARSE AGGREGATES

Client	**Asst. Executive Engineer,** Vidyaranyapura Sub Division, BBMP, Bangalore.
Agency	**Mr. B.B. Umesh,** #385, Bettaulsur (P), Bangalore North Taluk.
Name of Work	Improvements & Asphalting to dhanalakshmi Layout balance road in Ward No.09, Vidyaranyapura Sub Division, BBMP, Bangalore.
Reference	EE/BTP/BBMP/E-PMT/10(16710)WO/34/2015-16 Dated: 22.04.2015
Technical Reference	IS 2386(Part 1) 1963 (RA 2011)
Type of Mix	Wet Mix Macadam
Date of Testing	29.04.2015

Result : Flakiness Index = **12.13%**

Elongation Index = **13.25%**

Result : Combined Flakiness & Elongation index **25.38%**

Comments:

Maximum allowable Flakiness & Elongation Index for Wet Mix Macadam is 30%

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Job No.: CTCE/BBMP/W.No.09/BBU/WMM/S-T/2015-16 29.04.2015

DETERMINATION OF FLAKINESS INDEX & ELONGATION INDEX OF COARSE AGGREGATES

Client	**Asst. Executive Engineer,** Vidyaranyapura Sub Division, BBMP, Bangalore.
Agency	**Mr. B.B. Umesh,** #385, Bettaulsur (P), Bangalore North Taluk.
Name of Work	Improvements & Asphalting to dhanalakshmi Layout balance road in Ward No.09, Vidyaranyapura Sub Division, BBMP, Bangalore.
Reference	EE/BTP/BBMP/E-PMT/10(16710)WO/34/2015-16 Dated: 22.04.2015
Technical Reference	IS 2386(Part 1) 1963 (RA 2011)
Type of Mix	Wet Mix Macadam
Date of Testing	29.04.2015

Result : Flakiness Index = **12.90%**

Elongation Index = **13.82%**

Result : Combined Flakiness & Elongation index **26.72%**

Comments:

Maximum allowable Flakiness & Elongation Index for Wet Mix Macadam is 30%

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T-2377

Job No: CTCE/BBMP/W.No.09/BBU/CSR-05/840e/SDBC(QB)/2015-16 16.05.2015

TEST REPORT ON DETERMINATION OF BITUMEN CHARACTERISTICS

*CUSTOMER	:	**Asst. Executive Engineer,** Vidyaranyapura Sub Division, BBMP, Bangalore.
*AGENCY	:	**Mr. B.B. Umesh,** #385, Bettaulsur (P), Bangalore North Taluk.
*NAME OF THE WORK	:	Improvements & Asphalting to dhanalakshmi Layout balance road in Ward No.09, Vidyaranyapura Sub Division, BBMP, Bangalore.
REFERENCE	:	EE/BTP/BBMP/E-PMT/10(16710)WO/34/2015-16 Dated: 22.04.2015
*SAMPLE ID	:	Bitumen
DATE OF SAMPLING	:	14.05.2015
PERIOD OF TESTING	:	16.05.2015

The results of the tests conducted on the bitumen sample using for Semi Dense Bituminous Concrete.

Sl. No	Description	Test Method as per IS	Test Result	Requirement as per IS:73:2013
1	Penetration at 25 ^{0}C, 1/10 mm	IS :1203 -1978 (RA-2009)	82	80 to 100
2	Softening point, ^{0}C	IS :1205 -1978 (RA-2009)	45	Min. 40
3	Ductility at 27^{0}C, cm	IS :1208 -1978 (RA-2009)	100 >	Min. 75
4	Flash Point, ^{0}C	IS :1209 -1978 (RA-2009)	302	Min. 220

*Information is furnished by the Customer/Representative.

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VIDYARANI P.K.
Technical Manager

****

#23/14, 7th Cross, 3rd Stage, 4th Block, Shakthi Ganapathi Nagara, Basaveshwaranagar, Bangalore-79.
Tele Fax : 23223227, Website : www.civiltechconsultants.com
E-mail : vishwanath.ia@civiltechconsultants.com / info@civiltechconsultants.com

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Job No.: CTCE/BBMP/W.No.09/BBU/SDBC/AIV/2015-16 16.05.2015

Aggregate Impact Value

IS: 2386 Part IV

Customer	**Asst. Executive Engineer,** Vidyaranyapura Sub Division, BBMP, Bangalore.
Agency	**Mr. B.B. Umesh,** #385, Bettaulsur (P), Bangalore North Taluk.
Name of the Work	Improvements & Asphalting to dhanalakshmi Layout balance road in Ward No.09, Vidyaranyapura Sub Division, BBMP, Bangalore.
Reference	EE/BTP/BBMP/E-PMT/10(16710)WO/34/2015-16 Dated: 22.04.2015
Source / Location	Hot Mix Plant, Bangalore
Type of Mix	Semi Dense Bituminous Concrete
Date of Testing	16.05.2015

Sl No.	Details	Trial No. 1	Trial No. 2	Average
1	Total weight of aggregate sample filling the cylindrical measure = W_1 g	379	382	
2	Weight of agregate passing 2.36 mm sieve after the test = W_2 g	78	79	
3	Weight of aggregate retained 2.36 mm sieve after the test = W_3 g	301	303	
4	Aggregate Impact value = percent fines 100* (W_2/W_1)%	20.58	20.68	20.63

Comments:

→ Maximum allowable Aggregate Impact value for Semi Dense Bituminous Concrete is 27%

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Job No.: CTCE/BBMP/W.No.09/BBU/SDBC/AIV/2015-16 16.05.2015

Aggregate Impact Value

IS: 2386 Part IV

Customer	**Asst. Executive Engineer,** Vidyaranyapura Sub Division, BBMP, Bangalore.
Agency	**Mr. B.B. Umesh,** #385, Bettaulsur (P), Bangalore North Taluk.
Name of the Work	Improvements & Asphalting to dhanalakshmi Layout balance road in Ward No.09, Vidyaranyapura Sub Division, BBMP, Bangalore.
Reference	EE/BTP/BBMP/E-PMT/10(16710)WO/34/2015-16 Dated: 22.04.2015
Source / Location	Hot Mix Plant, Bangalore
Type of Mix	Semi Dense Bituminous Concrete
Date of Testing	16.05.2015

Sl No.	Details	Trial No. 1	Trial No. 2	Average
1	Total weight of aggregate sample filling the cylindrical measure = W_1 g	386	388	
2	Weight of agregate passing 2.36 mm sieve after the test = W_2 g	84	85	
3	Weight of aggregate retained 2.36 mm sieve after the test = W_3 g	302	303	
4	Aggregate Impact value = percent fines 100* (W_2/W_1)%	21.76	21.91	21.83

Comments:

→ Maximum allowable Aggregate Impact value for Semi Dense Bituminous Concrete is 27%

Civil-Tech Consultants & Engineers Bangalore

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Job No.: CTCE/BBMP/W.No.09/BBU/SDBC/Shape_T/2015-16 16.05.2015

DETERMINATION OF FLAKINESS INDEX & ELONGATION INDEX OF COARSE AGGREGATES

Customer	**Asst. Executive Engineer,** Vidyaranyapura Sub Division, BBMP, Bangalore.
Agency	**Mr. B.B. Umesh,** #385, Bettaulsur (P), Bangalore North Taluk.
Name of Work	Improvements & Asphalting to dhanalakshmi Layout balance road in Ward No.09, Vidyaranyapura Sub Division, BBMP, Bangalore.
Reference	EE/BTP/BBMP/E-PMT/10(16710)WO/34/2015-16 Dated: 22.04.2015
Technical Reference	IS 2386(Part 1) 1963 (RA 2007)
Type of Mix	Semi Dense Bituminous Concrete
Date of Testing	16.05.2015

Civil-Tech Consultants & Engineers Bangalore

Result : Flakiness Index = **11.28%**

Elongation Index = **13.20%**

Result : Combined Flakiness & Elongation index **24.48%**

Comments:

→ Maximum allowable Flakiness & Elongation Index for Semi Dense Bituminous Concrete is 30%

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Job No.: CTCE/BBMP/W.No.09/BBU/SDBC/Shape_T/2015-16 16.05.2015

DETERMINATION OF FLAKINESS INDEX & ELONGATION INDEX OF COARSE AGGREGATES

Customer	**Asst. Executive Engineer,** Vidyaranyapura Sub Division, BBMP, Bangalore.
Agency	**Mr. B.B. Umesh,** #385, Bettaulsur (P), Bangalore North Taluk.
Name of Work	Improvements & Asphalting to dhanalakshmi Layout balance road in Ward No.09, Vidyaranyapura Sub Division, BBMP, Bangalore.
Reference	EE/BTP/BBMP/E-PMT/10(16710)WO/34/2015-16 Dated: 22.04.2015
Technical Reference	IS 2386(Part 1) 1963 (RA 2007)
Type of Mix	Semi Dense Bituminous Concrete
Date of Testing	16.05.2015

Result : Flakiness Index = **12.85%**

Elongation Index = **13.80%**

Result : Combined Flakiness & Elongation index **26.65%**

Comments:

→ Maximum allowable Flakiness & Elongation Index for Semi Dense Bituminous Concrete is 30%

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Job No.: CTCE/BBMP/W.No.09/BBU/SDBC/Stripping/2015-16 18.05.2015

Stripping Value of Road Aggregates (Static Immersion Test)

IS: 6241

Customer	**Asst. Executive Engineer,** Vidyaranyapura Sub Division, BBMP, Bangalore.
Agency	**Mr. B.B. Umesh,** #385, Bettaulsur (P), Bangalore North Taluk.
Name of the work	Improvements & Asphalting to dhanalakshmi Layout balance road in Ward No.09, Vidyaranyapura Sub Division, BBMP, Bangalore.
Reference	EE/BTP/BBMP/E-PMT/10(16710)WO/34/2015-16 Dated: 22.04.2015
Type of Mix	Semi Dense Bituminous Concrete
Date of Testing	18.05.2015

Type of binder : 80/100
Percentage of binder used : 5.0% by wt.
Total weight of aggregate : 200 g
Total weight of binder : 10.0 g
Temperature of water-bath : 40° C

Observation Number	Stripping, Percentage	Average, Percentage	Average Retained Coating, %
1	3.3	3.40	96.60
2	3.4		
3	3.5		

Comments:

→ Minimum allowable Aggregate retained coating for Semi Dense Bituminous Concrete is 95%

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Job No.: CTCE/BBMP/W.No.09/BBU/SDBC/Sp_Wa/2015-16 18.05.2015

Specific Gravity And Water Absorption Test

IS: 2386 Part III

Customer	**Asst. Executive Engineer,** Vidyaranyapura Sub Division, BBMP, Bangalore.
Agency	**Mr. B.B. Umesh,** #385, Bettaulsur (P), Bangalore North Taluk.
Name of the Work	Improvements & Asphalting to dhanalakshmi Layout balance road in Ward No.09, Vidyaranyapura Sub Division, BBMP, Bangalore.
Reference	EE/BTP/BBMP/E-PMT/10(16710)WO/34/2015-16 Dated: 22.04.2015
Type of Mix	Semi Dense Bituminous Concrete
Source / Location	Hotmix Plant, Bangalore
Date of Testing	18.05.2015

Sl. No.	Details	Notation	Test Number			Mean Value
			Test 1	Test 2	Test 3	
1	Weight of aggregate suspended in water with the basket	W_1 g	2016	2015	2012	
2	Weight of basket suspended in water	W_2 g	750	750	750	
3	Weight of saturated aggregate in water	$(W_1 - W_2) = W_s$ g	1266	1265	1262	
4	Weight of saturated surface dry aggregate in air	W_3 g	2009	2005	2006	
5	Weight of water equal to the volume of the aggregate	$(W_3 - W_S)$ g	743	740	744	
6	Weight of oven dried aggregate	W_4 g	1993	1995	1996	
7	Specific Gravity	$W_4/(W_3-W_S)$	2.682	2.696	2.683	2.687
8	Apparent Specific gravity	$W_4/(W_4-W_S)$	2.741	2.733	2.719	2.731
9	Water Absorption	$((W_3-W_4)*100)/W_4$	0.80%	0.50%	0.50%	0.60%

Comments:

→ Maximum allowable Aggregate Water absorption value for Semi Dense Bituminous Concrete is 2 %

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Job No.: CTCE/BBMP/W.No.09/BBU/SDBC/Bitumen/2015-16 18.05.2015

BITUMEN DETERMINATION OF SEMI DENSE BITUMINOUS CONCRETE MIX

AS per IRC : SP : 11 - 1984

CUSTOMER	**Asst. Executive Engineer,** Vidyaranyapura Sub Division, BBMP, Bangalore.
AGENCY	**Mr. B.B. Umesh,** #385, Bettaulsur (P), Bangalore North Taluk.
NAME OF THE WORK	Improvements & Asphalting to dhanalakshmi Layout balance road in Ward No.09, Vidyaranyapura Sub Division, BBMP, Bangalore.
REFERENCE	EE/BTP/BBMP/E-PMT/10(16710)WO/34/2015-16 Dated: 22.04.2015
SAMPLE I/D	Roads at dhanalakshmi Layout, Ward No.09, BBMP, Bangalore.
DATE OF TESTING	18.05.2015

BITUMEN CONTENT DETERMINATION

Description	Trail 1	Trail 2
1. Weight of Mixture before Test, g	500	500
2. Weight of Mixture after Test, g	475	473.5
3. Weight of Asphalt and Mineral matter Extracted, g	-	-
4. Weight of Mineral Matter, g.	-	-
5. Weight of Ash, g		
6. Weight of Bitumen Extracted, g. (corrected)	25	26.50
7. Bitumen content in %	5.00	5.30
8. Average	**5.15**	

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Job No.: CTCE/BBMP/W.No.09/BBU/SDBC/Bitumen/2015-16 18.05.2015

GRADATION DETERMINATION OF SEMI DENSE BITUMINOUS CONCRETE MIX

As per IS : 2386 and IRC : SP : 11 - 1984

CUSTOMER	**Asst. Executive Engineer,** Vidyaranyapura Sub Division, BBMP, Bangalore.
AGENCY	**Mr. B.B. Umesh,** #385, Bettaulsur (P), Bangalore North Taluk.
NAME OF THE WORK	Improvements & Asphalting to dhanalakshmi Layout balance road in Ward No.09, Vidyaranyapura Sub Division, BBMP, Bangalore.
REFERENCE	EE/BTP/BBMP/E-PMT/10(16710)WO/34/2015-16 Dated: 22.04.2015
SAMPLE I/D	Roads at dhanalakshmi Layout, Ward No.09, BBMP, Bangalore.
DATE OF TESTING	18.05.2015

GRADATION AFTER EXTRACTION

Sieve Size in mm	Trail 1				Specified Limits as per MORTH specification table 500-15 (Grading-2)
	Weight Retained, gm	% Retained	%Cummulative Retained	% Passing	
13.2	0	0	0	100	100
9.5	25.36	5.34	5.34	94.66	90-100
4.75	260.5	54.84	60.18	39.82	35-51
2.36	52.36	11.02	71.20	28.80	24-39
1.18	51.98	10.94	82.15	17.85	15-30
0.3	24.56	5.17	87.32	12.68	9-19
0.075	36.25	7.63	94.95	5.05	3-8

Sieve Size in mm	Trail 2				Specified Limits as per MORTH specification table 500-15 (Grading-2)
	Weight Retained, gm	% Retained	%Cummulative Retained	% Passing	
13.2	0	0	0	100	100
9.5	33.35	7.04	7.04	92.96	90-100
4.75	265.5	56.07	63.12	36.88	35-51
2.36	58.25	12.30	75.42	24.58	24-39
1.18	44.25	9.35	84.76	15.24	15-30
0.3	22.32	4.71	89.48	10.52	9-19
0.075	28.56	6.03	95.51	4.49	3-8

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Job No.: CTCE/BBMP/W.No.09/BBU/SDBC/AGG/2016-17 18.05.2015

Aggregate Gradation Test

IS : 2386 Part I

Customer	**Asst. Executive Engineer,** Vidyaranyapura Sub Division, BBMP,
Agency	**Mr. B.B. Umesh,** #385, Bettaulsur (P), Bangalore North Taluk.
Name of the Work	Improvements & Asphalting to dhanalakshmi Layout balance road in Ward No.09, Vidyaranyapura Sub Division, BBMP, Bangalore.
Reference	EE/BTP/BBMP/E-PMT/10(16710)WO/34/2015-16 Dated: 22.04.2015
Sample I / D	Hot Mix Plant, Bangalore
Type of Mix	Semi Dense Bituminous Concrete (SDBC)
Date of Testing	18.05.2015

Total Weight of Sample: **5200** gm

SIEVE SIZE, mm	Weight Retained, gm	% Retained	Cummulative % Retained	% Passing	Grade-II As per MORTH	Remarks
13.2	0	0.0	0	100	100	Gradation satisfies Grade-II MORTH specification
9.5	400	7.7	7.69	92.31	90-100	
4.75	2850	54.8	62.50	37.50	35-51	
2.36	650	12.5	75.00	25.00	24-39	
1.18	415	8.0	82.98	17.02	15-30	
0.3	350	6.7	89.71	10.29	9-19	
0.075	300	5.8	95.48	4.52	3-8	

Total Weight of Sample: **5300** gm

SIEVE SIZE, mm	Weight Retained, gm	% Retained	Cummulative % Retained	% Passing	Grade-II As per MORTH	Remarks
13.2	0	0.0	0	100	100	Gradation satisfies Grade-II MORTH specification
9.5	325	6.1	6.13	93.87	90-100	
4.75	2655	50.1	56.23	43.77	35-51	
2.36	630	11.9	68.11	31.89	24-39	
1.18	415	7.8	75.94	24.06	15-30	
0.3	485	9.2	85.09	14.91	9-19	
0.075	525	9.9	95.00	5.00	3-8	

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JAS-ANZ BSCIC ISO 9001 REGISTERED

Job No.: CTCE/BBMP/W.No.09/BBU/SDBC/Stability/2015-16 18.05.2015

TEST REPORT ON STABILITY OF MIX

Customer	:	**Asst. Executive Engineer,** Vidyaranyapura Sub Division, BBMP, Bangalore.
Agency	:	**Mr. B.B. Umesh,** #385, Bettaulsur (P), Bangalore North Taluk.
Name of the Work	:	Improvements & Asphalting to dhanalakshmi Layout balance road in Ward No.09, Vidyaranyapura Sub Division, BBMP, Bangalore.
Reference	:	EE/BTP/BBMP/E-PMT/10(16710)WO/34/2015-16 Dated: 22.04.2015
Source of location	:	Hot mix Plant, Bangalore
Type of Mix	:	Semi Dense Bituminous Concrete
Date of Testing	:	18.05.2015

The results of the tests conducted on the Semi Dense Bituminous Concrete mix sample are as follows:

Sl. No	Description	Test Result 1	Test Result 2	Requirement as per MORTH (Table 500-16)
1	Marshal Stability, Kn	8.60	8.50	8.2 Kn (min)
2	Marshal flow, mm	3.10	3.35	2 – 4
3	Percent air voids in Mineral Aggregate	3.65	4.10	3 – 5
4	Voids in Compacted Mix	13.85	14.50	13 – 15
5	Percent Voids filled with Bitumen	67.80	68.30	65 - 78
6	Density, g/cc	2.26	2.27	--

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